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April 23, 2012

Honorable Ernest Y. Martin, Chair & Presiding Officer
Ikaika Anderson, Vice Chair
City Council
City and County of Honolulu
Honolulu, HI 96813-3077

Dear Chair Martin, Vice Chair Anderson and Members of the Council:

RE: Bill 10, CD1. Relating to the use of bags provided to customers. (Regulating the use of nonbiodegradable plastic bags and certain other bags provided to customers.)

We represent Environmental Safety Alliance and believe that the proposal to limiting single use plastic bags to be biodegradable is a definite move in the right direction.

The Environmental Safety Alliance has retained Dr. Andre Feliz who is based in California and was going to be here in Honolulu for this hearing but unfortunately had a prior engagement. We hope to be able to bring him here in the near future to speak to the Council and administration. Attached for your review are his comments regarding Bill 10 CD1.

Respectfully Submitted,

G.A. "Red" Morris
President

John H. Radcliffe
Vice President

The Case for Biodegradable Bags by Dr. Andre Feliz Regarding Honolulu City Council Bill 10 (2012)

Honolulu City Council Bill 10 (2012) is requires the use of single use plastic bags that are recyclable and biodegrade in the most common situations after disposal: in landfill, as compost, or as litter.

Typically, most of us think that a plastic is “biodegradable” if it quickly breaks down in the environment into harmless components. The problem is that there are different approaches to making a biodegradable plastic, and different plastics may not break down the same way or at the same rate in all situations. Each maker of plastics wants its method to be defined as biodegradable, and most have tried.

The voluntary development of “standards” for many products is organized by ASTM International (originally the American Society for Testing and Materials). Driven by members and international agreements, ASTM defines a “standard” for a product. This means that the product meets a set of criteria: it lasts so long, it is so hard, it contains (or does not contain) defined ingredients. (etc.), and how to test for the criteria. This is a standard.

Some standards cannot be developed because there is not yet a way to test against a criteria. It is predicted that a glass bottle will last up to a million years before breaking down into its basic materials. This time frame is difficult to test. The same is true of typical plastics. It has been asserted that a typical plastic bag will biodegrade in the 500 year to infinity time frame. This is a best guess because, again, this is time frame is difficult to test.

All the various ASTM International standards regarding the biodegradability of plastics are attempts to define the required breakdown of the plastic in certain situations: in various kinds of landfills, in a compost pile, under water, in sunlight. The goal is to assure that the plastic used does, in fact, biodegrade within a reasonable time frame. The standards for a material to be “biodegradable” require that half of it must break down under composting conditions within 180 days. “Natural” products can take a surprisingly long time to biodegrade: leather shoes take 25 to 40 years.

Honolulu City Council Bill 10 (2012) is designed to require the use of single use plastic bags that are recyclable and biodegrade in the most common situations in Honolulu after disposal: in landfill, as compost, or as litter. The list of ASTM standards in the ordinance help define the parameters of the biodegradation process. The ordinance would be meaningless without these defined standards as the City would be left with only the assurance of manufacturers as to their product’s biodegradability.

The safety and convenience of single use plastic bags is uncontested. The eye-sore and possible environmental risks of plastic litter are obvious. The mandatory use of reusable grocery bags places public health in jeopardy.

Using recyclable, biodegradable bags at the grocery store check stand is a solution that strikes a common sense balance between often competing interest.

ASTM Standards and Explanation

- ASTM D5338 Standard Test Method for Determining Aerobic Biodegradation of Plastic Materials under Controlled Compositing Conditions. Incorporating temperatures for certain bacteria.

This is a method to analyze the destruction of plastics by oxygen based bacteria at high temperatures to ensure appropriate bacterial growth. This standard addresses the need for plastics to breakdown at a high temperature by bacteria.

- ASTM D5988 Standard Test Method for Determining Aerobic Biodegradation in Soil of Plastic Materials or Residual Plastic Materials After Composting.

This is a method to examine the destruction of plastics by oxygen based bacteria in an environment that mimics soil and dirt. This standard addresses the breakdown of plastics in the natural environment.

- ASTM D6691 Standard Test Method for Determining Aerobic Biodegradation of Plastic Materials in the Marine Environment by a Defined Microbial Mix or Natural Sea Water added to Start a Culture.

This is a method to examine the destruction of plastics by oxygen based bacteria in aquatic and sea water like environments. This standard deals with the breakdown of plastics in water.

- ASTM D6954 Standard Guide for Exposing and Testing Plastics that Degrade in the Environment by a Combination of Oxidation and Biodegradation.

This is a standardize guideline for the destruction of plastic materials by bacteria and by oxygen.

- ASTM D7081 Standard Specification for Non-Floating Biodegradable Plastics in the Marine Environment.

The standard to define what a plastic is that can invade and persist in water environments.

- ASTM D7475 Standard Test Method for Determining the Aerobic Degradation and Anaerobic Biodegradation of Plastic Materials under Accelerated Bioreactor Landfill Conditions.

The method to examine the destruction of plastics by oxygen based bacteria and non-oxygen based bacteria in a landfill environment. This standard addresses the breakdown of plastics in a standard dump or landfill.

- ASTM D5511 Standard Test Method for Determining Anaerobic Biodegradation of Plastic Materials Under High-Solids Anaerobic-Digestion Conditions.

The method to examine the destruction of plastics by non-oxygen based bacteria designed to eat solid waste matter.

- ASTM D5526 Standard Test Method for Determining Anaerobic Biodegradation of Plastic Materials Under Accelerated Landfill Conditions.

We urge your favorable consideration of biodegradable plastic bags as a common sense solution while at the same time preserving food stock for the HPower trash to energy program.

Disease at the Checkout Stand

Can Re-usable Bags pose a Health Risk to Grocery Market Employees?

by Andre Feliz, M.D.

Any check-out clerk can tell stories of a re-usable bag of "questionable" cleanliness. Those bags that are covered in dog hair, matted with grease and oil from storage in the car, filth-encrusted from holding those garden clippings, smell like they held a dirty diaper at one point (and most likely did). Those bags that customers love to tote everywhere sometimes appear to have weathered the journey to hell and back. Reusable bags may be a forerunner for illness and disease. Workers who unwittingly place their hands in them as part of their daily service job most likely place their health in jeopardy. With the movement to ban single use bags, grocery store employees will have to deal with the growing use of re-usable bags. The unanswered question is: Are workers being protected from the possibility of disease that those bags may carry?

It can sound outlandish or over cautious that something as innocuous as a re-usable bag would pose a risk for workers, but the facts of illness are no exaggeration. Each year millions of Americans become sick from illness related to food products and groceries, in fact 1 in 6 Americans. Over one hundred thousand of these individuals will require hospitalization and even more troubling is that 3000 of these will die. Illness from common foods such meat, poultry, eggs, produce, and dairy is a major health risk to the public. How many times have a shopper opened a bag only to find that a bag of chicken has leaked or a carton of milk or eggs has burst? They can pose and even greater health risk to those that must deal in the food service industry every day. Some will say that re-usable can't possibly be associated with such illness. However, thanks to a study from University of Arizona microbiologist Dr. Charles Gerba, re-usable bags may in fact be a significant disease vector for foodborne illness.

The Gerba Study

The purpose of Dr. Gerba's study was to assess the potential for cross contamination of food products from reusable bags used to carry groceries. The study shows that the reuse of bags creates an opportunity for bacterial contamination and that re-usable bags may be harbingers for these types of illness. The researchers tested 84 bags and found that over half were contaminated with bacteria. Bacteria levels found in reusable bags were significant enough to cause a wide range of serious health problems and even death. The study also found that awareness of potential risks was very low. A full 97 percent of those interviewed never washed or sanitized their reusable bags, a frightening statistic if you consider the danger in

which people place themselves, as well as the danger that they place grocery store employees in.

A Threat to Worker Safety

It's important to consider the threat and effects to grocery workers as they find themselves at risk of handling contaminated bags day in and day out. *Salmonellosis* is a major problem caused by the *Salmonella* bacteria and symptoms are fever, headache, nausea, vomiting, abdominal pain and diarrhea. *Campylobacter bacteria* cases surpass the incidence of *salmonellosis* and can also cause abdominal pain and diarrhea, however in ten per cent of cases the infection may lead to chronic health problems, including reactive arthritis and neurological disorders. Most serious of all are Infections due to *E. coli* and *Listeria*. Although their incidence is relatively low, their severe and sometimes fatal health consequences, particularly among pregnant women, infants, children and the elderly, make them among the most dangerous.

Unfortunately, the public is unaware of the costs that are borne by workers in the food service industry. The USDA Economic Research Service has found that such illness can cost workers heavily in lost wages, medical bills, and in severe cases prolonged hospitalization. When calculated across the continent those costs can reach into the billions every year, and that doesn't take into account the price of an employee bringing that illness back to their families and the anguish and suffering involved. So what precautions do employees have against this?

The Need for Public/Employee Awareness

Interestingly, grocery store clerks are often not afforded common protections that are given other food service employees in restaurants and food counters. Such as using gloves or utensils instead of bare hands when handling food, being allowed to wash and scrub hands frequently, and most importantly be given cleaned, rinsed, and sanitized equipment to work with, in this case grocery bags. Few store clerks, just like the public, are actually aware filthy bags could pose a health risk to them. It should not be unreasonable for store clerks to be given clean and sanitized bags by the public in order to protect their own health and those of their family. Laws exist to protect the public and consumers from food borne illness such as the new FDA Food Safety Modernization Act. Why not extend the same protections to employees who work for companies involved in the FSMA?

A complete awareness campaign must be started to make workers aware of the health risks associated with re-usable bags. With such knowledge workers can better protect themselves and their families from illness. It is only right to warn someone in the workplace of potential hazards, again a common protection afforded others workers, so why not grant the courtesy to baggers and grocers? A public awareness campaign would not only benefit employees but help protect the general public as well, since Dr. Gerba has shown that few are

actually aware of the dangers posed by failing to wash re-usable bags after every use. The campaign would need to educate everyone on the danger present, and that a thorough washing kills nearly all bacteria that accumulate in reusable bags. This simple action would have a two-fold effect of protecting both workers and consumers.

What Should be Done?

Clean and sanitized protective gear (such as gloves and hand sanitizers) should be provided to each worker who must deal with re-usable grocery bags in stores that do not provide single use plastic bags. If the public cannot be counted on to wash and clean their bags, then any market that is not permitted to use single use plastic bags must also supply employees with adequate protection to keep them from becoming sick from reusable bags. This protection should include gloves and or frequent chances to wash and sanitize an employee's hands.

If a bag is particularly filthy a worker must be given the option of refusing to handle such a dangerous product. If an aloof customer wishes to place their own health at risk in order to that is within their conscience, but they should not also place the grocery store worker at risk as well.

With the cost of health care escalating, the concern over worker safety is a significant issue. Both employers and workers should take precautions to insure safety and well-being. Additionally, an aggressive program to alert the public to proper care and maintenance of reusable bags should be a public health policy priority.